

Joshua Dall'Acqua

BACKEND DEVELOPER · DATA ENGINEER

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Experience

Backend Engineer — Intern

Remote / Kitchener, ON

PERKUP

May - December 2022

- Implemented **Stripe Issuing** webhook handler to approve/decline authorizations real-time. Currently processes \$10,000 daily.
- Designed and built scheduling service around **Cloud Scheduler** and **Pubsub** to guarantee the delivery of employee rewards for recurring events. This allowed clients to automate rewards events such as birthdays and work anniversaries.
- Constructed various **gRPC/Protobuf** endpoints in **Go** which communicate with **Cloud Firestore**, Slack, Airtable and other services allowing for quick access to strongly typed data across the application.
- Collaborated with a small team to engineer a middleware for the **Shopify GraphQL API**. This allowed third party vendors to be added to the app with minimal effort and expanded the variety of products available to clients.
- Contributed to the planning and development of a global **Amazon integration** expanding the reach of the app to Organizations with multinational teams.

Data Engineer — Intern

Hybrid / Edmonton, AB

LONGVIEW SYSTEMS

Summer 2023

- Migrated large ecosystem of SQL store procedures to **Databricks** notebooks using **PySpark** and **Spark SQL**. This provided the client with faster data access and more visibility into the health of their data pipelines.
- Developed unsupervised machine learning model to map adhoc product descriptions strings to SKUs. This was part of an effort to reconcile a client's legacy data with their new data model following a migration.
- Built a variety of **ETL** pipelines in **Azure Data Factory** which populated and maintained a client's **data lake** + lakehouse.

Course Assistant — Algorithms and Data Structures

Montreal, QC

MCGILL UNIVERSITY

Sept 2024 - Present

- In charge of writing template code and grading scripts for programming assignments as well as creating example solutions.
- Obligated to answer questions related to assignment grading, and to host live code reviews for the final project.

Projects

Youtube Transcript Search Engine

[Link to website](#)

DESIGNER/DEVELOPER

- Allows for full text search over all transcripts, descriptions and titles of all the videos on a specified YouTube channel.
- Self hosted using MariaDB (database), NextJS (frontend), Flask (backend) running on Proxmox (hypervisor) and Nginx (reverse proxy). SSL certificates via let's encrypt, CI/CD pipeline which re-deploys the application when changes are pushed to main.

Research

The Missing Mass Problem in Statistics

[Link to paper](#)

RESEARCH PROJECT — MCGILL UNIVERSITY

May - August 2024

- Exploration of approaches to estimate the total number of species in a population given a sample which does not contain a representative of every species in the population.
- Implemented statistical estimators and smoothing functions in **Julia** to run experiments which used Monte-Carlo simulations to compare the performance characteristics amongst different estimation techniques.

Skills

Languages Python, Go (Golang), Julia, Java, C/C++, Ocaml, TypeScript

Technologies GCP, Azure, Databricks, Stripe, Nginx, Proxmox

Spoken Languages English, French

Education

McGill University

Montreal, QC

B.Sc - HONOURS MATHEMATICS AND COMPUTER SCIENCE

CGPA: 3.83

Sept 2020 - December 2024